

SERVO-DRIVEN CLAMPING UNIT FOR USE IN INJECTION MOLDING MACHINE

ABSTRACT

A clamping unit for use in an injection molding machine is proposed, wherein a plurality of tie bars are symmetrically positioned and mounted in parallel to corners of a front platen and a rear platen, and a movable platen is movably sleeved about the tie bars and positioned between the front and rear platens. A servo-motor mounted on the rear platen acts as a power source for operating the clamping unit. A belt-gear mechanism associated with the servo-motor transmits torque force and turning speed provided from the servo-motor to a ball screw transmission mechanism connected to the belt-gear mechanism. The ball screw transmission mechanism converts the torque force into axial pushing force, so as to drive a toggle linkage mechanism that interconnects the rear platen and the movable platen, and move the movable platen along the tie bars for performing mold-opening and mold-clamping operations.

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